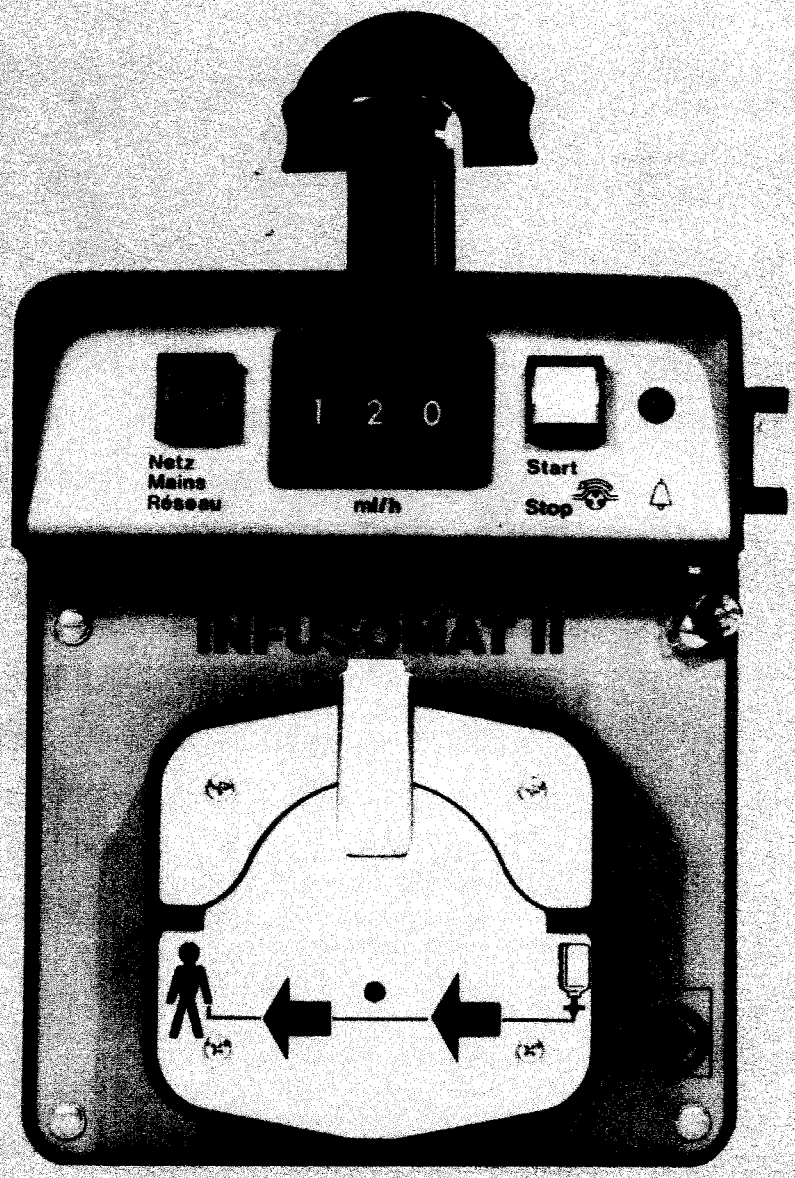
Operating-Instructions
INFUSOMAT® II



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Operating instructions INFUSOMAT® II

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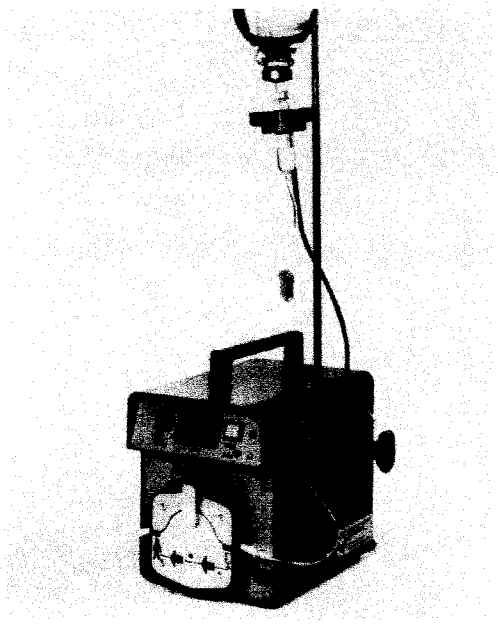

Fig. 1

1. Description

1.1. Application ranges

For the precise application of highly effective solutions and medicaments with decisive advantages...

- for intravenous long term infusion
- for the intravenous administration of medicaments after addition to an infusion solution
- for infusing precise amounts of liquid at constant speed
- for the slow administration of small liquid volumina from 1 ml/h onwards
- for rapid administration of large liquid volumina up to 999 ml/h
- for keeping the infusion rate constant over prolonged periods
- for quick and accurate adaption of the infusion time to the therapeutic development

1.2. Reliability in service:

The INFUSOMAT® II is a fault proof unit with an additional test of construction and design by the TÜV *, concerning safety and reliability in medicinal use. Therefore this unit carries the TÜV-Rhineland label and the VDE label which means it conforms with the law and regulations for technical equipment. The INFUSOMAT® II is undergoing regular quality and safety controls by the TÜV-organisation.

Reliability is maintained by:

- a liquid control system which prevents pumping of air into the blood vessels.
- a liquid control system which signals an alarm if the liquid delivered falls short of or exceeds the preselected volume.
- a dynamic cyclic self-control of the electronic circuit, showing a possible fault of electronic parts.

- *the design of the pump head, which always keeps the tubing system closed when the rotor stops.*
- *the ability to signal a malfunction through a built-in alarm system as well as a staff call system.*
- *the ability to eliminate normal frequency fluctuations and to bridge short interruptions in the power supply.*

2. Short operating instructions

2.1. *Connect infusion tubing to solution bottle, fill lower part of drip chamber up to 2/3, vent tubing system, connect cannula, close roller clamp, and connect system to patient.*
Press monitor part in the clip provided at side of pump housing.

Important!

Only Original INFUSOMAT® Infusion tubings of the B. Braun Melsungen AG are to be used (See ordering data).

For reasons of maintaining sterility a new infusion set should be used with every new bottle.

2.2. *Fit silicone tubing part into the pump head.*

Important!
Attention should be paid to the pump direction!

2.3. *Fix drop detector to drop chamber.*

2.4. *Open roller clamp completely.*

2.5. Select infusion rate.

2.6. Switch on INFUSOMAT® II (green pilot lamp and red pilot lamp go on).

2.7. Push starter button (red pilot lamp goes off, yellow start lamp goes on).
Infusion begins.

2.8. Connect INFUSOMAT® II to staff call system if existing.
To stop the INFUSOMAT® II it is sufficient to switch off the unit with the mains switch.

Hints for utilisation

This unit is not to be used where there is a risk of explosion!
The unit is to be used in medicinal and dry rooms only which have been isolated according to VDE-regulation 0107.
Blood transfusions are not recommended because of an increased danger of haemolysis!

3. Operating instructions

3.1. Unpack the unit.
Check for completion and possible transport damage. Compare rating label (at rear) with available power source. The INFUSOMAT® II can be used either as a bench unit or fastened to an infusion stand or to the bedframe. The clamping device is designed for fastening to tubes or bed frames with 10 to 40 mm dia.

When using the INFUSOMAT® II as a bench unit, a small stand for suspension of the solution bottle is available as an accessory.

Attention!

When using an infusion stand with three legs the INFUSOMAT® II should be fastened to the upright above one of the legs. If possible only stands with five legs should be used.

3.2 *Electrical connection:*

The INFUSOMAT® II is connected to the mains supply by means of the cable supplied. Connection to the staff call system is via a special cable supplied. See technical data for installation hints.
The INFUSOMAT® II can be used with an external low-voltage source of 12 V (e.g.Accu) by means of a socket at the rear. For further details see 6. technical data.

3.3 *Venting the tube system:*

a) *Connect drip chamber to solution bottle with roller clamp and venting closed. By squeezing flexible drip chamber, fill lower part of it up to 2/3 (see fig. 4/5).*

b) *Open vent cone (see fig. 4/4).*

c) *Open roller clamp and vent system as far as to the cannula.*

d) *Close roller clamp and check system for possible air bubbles.*

3.4 *Placing the tube system:*

a) *Press monitor part into the clip provided at the side of the pump housing.*

b) *Place silicone tubing part in pump head correctly, ensuring that the tubing is positioned in the middle of the pressure and guide rollers, and the guide grooves at bothe sides of the pump head.*

Attention!

Pay heed to pump direction at front of pump head!

c) *Close pump head*

d) *Open roller clamp completely. No infusion solution must flow into the drip chamber. If this is the case, the silicone tubing part has not been positioned correctly in the pump head.*

3.5 *Fixing the drip detector*

The drip detector is fixed to the white ring of the drip chamber. Pay heed to the marking "oben" and "top" respectively (see fig.4/2). To prevent unneccessary fault signals, the drip chamber with the attached drip detector should be connected to the solution bottle in a vertical position.

3.6 *Selection of infusions rate and starting the unit.*

The desired volume is selected by means of the thumb wheels of the pre-selector in the range from 1 ... 999 ml/h.
When pressing the switch "Netz" ("Mains"), the unit is switched on (green pilot lamp goes on).

At the same time the red pilot lamp for faults goes on and the built-in alarm system starts to function after approx. 5 seconds.

When pressing the button "Start", the INFUSOMAT® II starts. (The yellow pilot lamp goes on; fault signals go out). If no fault signal is to be transmitted to the staff call system during preparation procedure, the plug of the call system cable has to be disconnected for a short period.

Important!

Don't start unit with the pump head open. For safety reasons the built-in alarm system (buzzer) can be switched off (switch at the rear panel) only when the plug for the staff call system is connected to the INFUSOMAT® II.

3.7. To put unit out of service.

To put unit out of service it is sufficient to switch off the mains switch.

If the unit is to be out of service for longer periods, the mains plug should be disconnected.

The drip detector can be clipped to the support on the handle of the pump (see fig. 3).

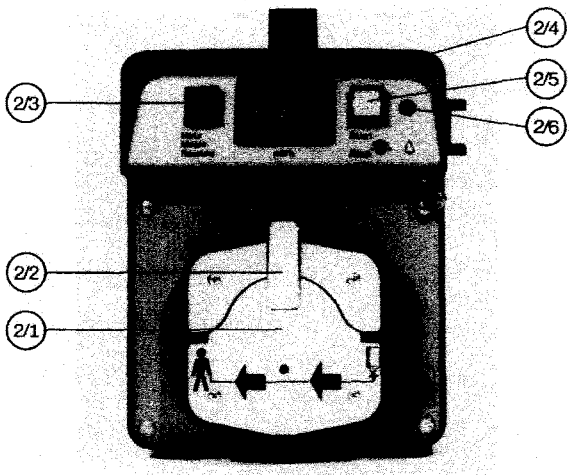

Fig. 2

2/1 Pump head
2/2 Closure
2/3 Mains switch
2/4 Preselector
2/5 Start-Stop-button
2/6 Fault signal pilot lamp

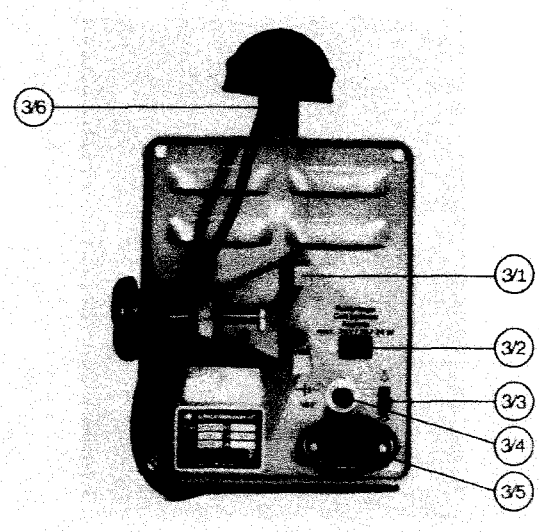

Fig. 3

3/1 Clamping device
3/2 Socket for connection to staff call system
3/3 Switch for shut-off of built-in buzzer
3/4 Socket for low-voltage input
3/5 Socket for mains supply
3/6 Support for drop detector

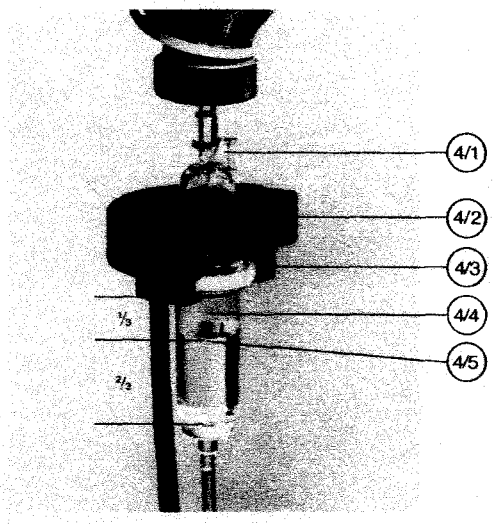

Fig. 4

4/1 Vent opening
4/2 Drip detector
4/3 Clamp
4/4 Drip chamber
4/5 Liquid level

4. *Faults*

Principly the INFUSOMAT® II sounds an alarm signal with every fault through the built-in buzzer as well as through the staff call system, if connected to it. The built-in accoustical signal can only be shut off if the plug for the staff call system is connected.

Fault finding table

Fault	*Possible cause*	*Remedy*
Pilot lamp power supply does not glow	*Power supply cord not connected*	*Connect it*
Red pilot lamp glows continuously + accoustical alarm signal	*Infusion bottle empty*	*Connect new bottle*
	Drop detector not connected, or not connected correctly	*Connect correctly*
	Roller clamp not open completely	
	Silicone tubing part not located correctly in pump head	*Locate silicone tubing part*
	Flow direction of tubing system incorrect	*Place tubing system correctly*
	Defective infusion tubing	*Change infusion tubing*
	Drop detector soiled	*Clean*
Red pilot lamp blinks	*Defect in the self-monitoring system of the unit*	*a) Get unit repaired before use*
		b) If during infusion, complete infusion, and have repair carried out afterwards.

5. Maintenance, cleaning, warranty

5.1. Maintenance and cleaning

Besides occasional cleaning the INFUSOMAT® II needs no maintenance.

The usual commercial cleaning agents are suitable for cleaning the unit. For disinfecting we recommend our disinfection spray "MELSEPT®". When cleaning or disinfecting make sure no liquid enters the controls or the interior of the unit.

Important:

Before cleaning or disinfecting it is imperative to disconnect the unit from the mains supply. Wait at least 10 seconds for evaporation of the disinfecting agent before starting the unit.

5.2. Repair of the INFUSOMAT® II

According to VDE-regulations 0750, repair of the unit must either be carried out in our works or by an authorised dealer only.

5.3. Warranty

For every INFUSOMAT® II we give a warranty for 12 months,

valid from date of invoice. This warranty covers repairs or exchange of faulty parts caused by faults in construction, assembly, or material. The warranty becomes invalid if the user or other persons have altered any parts, or carried out repairs or when the seal has been broken. Not included in the warranty are:

- *rectifying faults caused by wrong manipulations, improper handling, or normal wear.*

We reserve the right for changes in instruction without prior notice.

6. Technical Data

Power supply	: 220 V (+10%, -15%) 50/60 Hz
Power consumption	: 0.1 A (100 mA)
Low voltage connection	: 12 V = (minimum 11.5;maximum 15V) safe galvanic separation from mains supply required. Consumption 1 A
Interference protection	: N (according to VDE 0875)
Switch-on time	: 100 %
Permissible humidity	: 30 ... 75 %
Permissible ambient temperature	: + 10 ... 40° C
Tolerance in rpm	: ± 2 %
Automatic alarm triggered if rpm deviates	: ± 5 %
Fastening possibilities	: On infusion stand or bed frame: from 10 to 40 mm dia.
Finish	: dark green RAL 6010
Dimensions WxHxD	: 160 x 260 x 280 mm
Weight	: approx. 5.3 kg
Staff call system	: max. 24 V / 1 A / 24 W

7. Ordering Data

Cat. No.	
870 602/6	INFUSOMAT® II Infusion pump for continuous infusion, volume selectable between 1 ml/h and 999 ml/h, for connection to 220 V, 50/60 Hz

8. Accessories and Spare parts

Cat. No.:	
870 190/3	INFUSOMAT® - tubing N, complete, with flexible drop chamber, roller clamp and liquid filter according to DIN regulations 58 362, sterile and pyrogen-free packed, disposable, length from INFUSOMAT R to patient 1.50 m, Rekord-Lok-cone. Standard pack 100 pcs.
870 195/4	INFUSOMAT® - tubing N, complete, with flexible drop chamber, roller clamp and liquid filter according to DIN regulations 58 362, sterile and pyrogen-free packed, disposable, length from INFUSOMAT R to patient 1.50 m, Luer-Lok-cone. Standard pack 100 pcs.
870 260/8	INFUSOMAT® - tubing U, complete with flexible drop chamber, roller clamp and filter after DIN 58 362; sterile and pyrogen-free packed, disposable; length from INFUSOMAT R to patient 2.00 m; with Rekord-Lok-cone. Standard pack 100 pcs.
870 265/9	INFUSOMAT® - tubing U, complete with flexible drop chamber, roller clamp and filter after DIN 58 362; sterile and pyrogen-free packed, disposable; length from INFUSOMAT R to patient 2.00 m; with Luer-Lok-cone. Standard pack 100 pcs.
870 171/7	Small stand for solution bottle, for fastening to the INFUSOMAT R II
872 750/4	BRAUNOSTAT "S", safety infusion stand with 5 feet, with socket board with 3 sockets for connection of 3 infusion pumps.
872 760/0	BRAUNOSTAT "N", safety infusion stand with 5 feet, for 1 infusion pump, without socket board.
3317301/0	Lamp for power supply and operation (750 510/8)
870 170/9	Cable for staff call system, complete with plug